M/023/007



December 4, 1987 SRK Project No. 13701

State of Utah Department of Natural Resources Division of Oil, Gas, and Mining 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203

Attention: Mr. David Wham

Dear David,

Enclosed are three (3) copies of the updated "Reclamation Equipment and Costs" to accompany the "Notice of Intent" for the Tintic Project.

If you have any questions or require further details on how the cost estimates were derived, please call or let me know.

Respectfully,

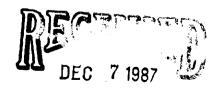
STEFFEN ROBERTSON AND KIRSTEN (COLORADO) INC.

Philde Dycker by BAB

Phillip M. DeDycker Project Manager

PMD/gg

Enclosures



DIVISION CIL, GAS & MINING

RECLAMATION EQUIPMENT AND COSTS (Revised 12/4/87) Supplement to Notice of Intent Tintic Project North Lily Mining Company

1.0 UNIT COSTS AND RANGES

The equipment and materials that can be used in the reclamation of the Tintic Project are detailed in this section, and the unit costs tabularized. The heavy equipment needed for dozing, grading, and drainage control are available onsite from the mining operations. Equipment to be used during final reclamation and revegetation will need to be located in this area of Utah either from local ranchers or from reclamation contractors.

The costs given here are based on recent quotes from contractors in this area or from actual rates currently in use at the site. Ranges of costs and the most likely costs were verified for this estimate by calls to some local contractors. These costs reflect the current state of the local economy, but should be valid for the life of the project of three years.

Equipment onsite that can be used for reclamation: TD20 dozer, International,
Dump truck, 15 cu yd capacity,
980C loader, Caterpillar 5.5 cu yd capacity,
120B road grader, Caterpillar equipped with rippers,
31S backhoe tractor, Kamatsu, and
637 scraper, Caterpillar 25 cu yd capacity.

Reclamation equipment (will be hauled periodically to site):
Rangeland drill,
Farm tractor,
Discs, rake, harrow, etc.,
Hay spreader (mechanical blower), and
Crimper

Revegetation Materials: Seed, Hay, or hydromulch, Fertilizer, and Soil amendments.

For estimation purposes, the costs of reclamation are broken down into equipment, labor and materials costs; then into a per acre cost for revegetation. The estimated costs are given first for typical contractor prices for this area, and then a range to be expected in central Utah depending on availability, location, and contract prices.

Estimated reclamation costs on a unit basis for the Tintic Project:

Туре	\$/hr	
	<u>Unit</u>	Range
Equipment (Includes operator, fuel, and mai	intenance)	
Dozer	50	40-85
Grader	45	45-55
Loader	65	55-70
Backhoe	35	35-50
Scraper	1.25/yd	.50-2.25/yd
Labor Costs		
Heavy equipment operator	10	8-12
Laborer	7	7-9
Foreman	12	12-14
Subsistance/day/man	30	25-40
Material Costs		
Seed		
grass	5.50/lb	1-20/16
shrub	35/1b	20-90/1b
seedlings	.80/each	.50/1.75/each
Hay	295/ton	270-315/ton
Fertilizer	295/ton	270-315/ton
Soil amendments	5.75/1b	3.50-8.75/1b

<u>Contractor Costs for Revegetation</u> 550/acre 400-1100/acre (soil amending and preparation, seeding and mulching)

2.0 PROJECT COMPONENT COSTS

The project component costs are estimated on a contractor basis, not the actual costs to the North Lily Mining Company, which will perform most of the reclamation work. The time for equipment usage is estimated either on a linear or acreage basis.

1. Interim reclamation of the tailings dump	area
Rough grading	
Dozer - 24 hrs @ \$50/hr	1,200
Grader - 8 hrs @ \$45/hr	360
Topsoil placement	
12,100 yds @ \$1.25/yd	15,125
Final grading/drainage	
Grader - 24 hrs @ 45/hr	1,080
Revegetation	
Materials - 15 ac @ \$285/ac	4,275
Contractor - 15 ac @ \$550/ac	8,250
Subtotal	30,290
2. Final Reclamation	
Site decommissioning	5,475
Building removal, site cleanup	
Equipment & labor estimate	5,760
Final Grading and stabilization	
Dozer - 80 hrs @ \$50/hr	4,000
Grader - 56 hrs @ \$45/hr	2,530
Backhoe - 24 hrs @ \$35/hr	840
Topsoil placement	
25,000 yds @ \$1.25/yd	31,250
Drainage and sediment control	
Dozer - 40 hrs @ \$50/hr	2,000
Grader - 20 hrs @ \$45/hr	900